

REMARKS

Introduction

Claims 1-4, 15-18, and 28-33 are pending in the above-identified patent application. Applicants have amended claims 1 and 28.

Reconsideration of this application in light of the following remarks is hereby respectfully requested.

Summary of Telephonic Interview

Applicants wish to thank the Examiner for the courtesies extended during the August 1, 2005 telephonic interview with the undersigned. During the interview, independent claims 1, 15, and 28 were discussed.

With respect to claim 1, the Examiner stated that the phrase "implemented on" was too broad. The Examiner suggested amending claim 1 to more particularly define that the central processing unit is part of the programmable logic resource in order to overcome the rejection in view of Kimura et al. U.S. Patent No. 5,537,601 (hereinafter "Kimura").

With respect to claim 15, the definition of "swapping" was discussed as well as the portions of Kimura cited by the Examiner in the Office Action (in particular

claim 1, FIG. 24, and the corresponding description). No agreement was reached, however, the Examiner stated that a further review of Kimura was needed.

With respect to claim 28, applicants proposed amending the claim to more particularly define that the determination performed by the virtual computer operating system is done autonomously. The Examiner stated that this proposed amendment had sufficient support in the specification and would overcome the rejection in view of Kodosky et al. U.S. Patent No. 6,219,628 (hereinafter "Kodosky").

To advance the prosecution of this case, applicants agreed to amend independent claims 1 and 28 to more particularly define the claimed invention.

Claims 1-4

Claims 1-4 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Kimura. Applicants have amended claim 1 to more particularly define that at least one of the programmable logic resources is at least partially configured as a central processing unit. No new matter has been added and the amendments are fully supported by the specification (see, e.g., p. 7, lines 5-9; and p. 11, lines 1-20).

Applicants respectfully submit that Kimura does not show or suggest a reconfigurable computer system having "at least one programmable logic resource that is at least partially configured as a central processing unit" as recited in applicants' independent claim 1.

Instead, in Kimura, the central processing unit (CPU) and the digital signal processor (DSP) or programmable logic (PL) are separate components. The Examiner cites to FIGS. 35, 39, and 40, and claims 1, 25, 34, and 45 of Kimura as showing this feature of applicants' claim 1. FIG. 35 shows a separate CPU 611 and DSP 620. FIGS. 39 and 40 each show a separate CPU 801 and PL 31. Claims 1, 25, 34, and 45 recite a first processor part and a second programmable logic part, in which only the second programmable logic part has the programmable logic. Kimura does not show or suggest the DSP or PL as being at least partially configured as a CPU.

For at least the foregoing reason, applicants respectfully submit that claim 1 is allowable. Claims 2-4, which depend from claim 1, are also allowable.

Claims 15-18

Claims 15-18 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Kimura. The Examiner's

rejections are respectfully traversed.

Applicants' invention, as defined by independent claim 15, relates to managing resources in a reconfigurable computer that contains programmable logic resources. The programmable logic resources are reconfigurable to optimize the ability of the computer to handle a given application. A virtual logic manager manages the swapping of configuration data between a secondary storage device and the programmable logic resources.

Contrary to the Examiner's contention, applicants respectfully submit that Kimura also does not show or suggest "swapping configuration data between a secondary storage device and the programmable logic resources during programmable logic resource allocation using a virtual logic manager" as recited in applicants' independent claim 15. The Examiner cites to FIG. 24 and claims 1, 25, 34, and 45 of Kimura as showing this feature of applicants' claim 1. FIG. 24 shows three external memories 490 that each hold signals of one image (a coded image, a reference image, and a next coded (input) image):

These three types of images are handled as different types of image memories after the data of one image is coded. That is, a reference image of the next frame is written in a coded-image memory during

coding and used as a reference-image memory. The reference-image memory is used for inputting an image at the next frame and an input-image memory is used as a frame coding memory of the next frame.

(Kodosky, col. 10, lines 43-60). Claims 1, 25, 34, and 45 recite a data processing system having a memory means and providing processed output data. Circuit configuration data is transferred from the memory means to a second programmable logic part. The output data from the second programmable logic part is sent as output to the data processing system. (Claims 1, 25, 34, and 45).

Neither the description of FIG. 24 nor the cited claims (i.e., claims 1, 25, 34, and 45) describe (1) swapping configuration data between a programmable logic part and the external memory (2) during any programmable logic resource allocation using a virtual logic manager.

For at least the foregoing reason, applicants respectfully submit that claim 15 is allowable. Claims 16-18, which depend from claim 15, are also allowable.

Claims 28-33

Claim 28 has been rejected under 35 U.S.C. § 102(e) as being anticipated by Kodosky. Claims 29-33 have been objected to as being dependent upon rejected base claim 28. Applicants have amended claim 28 to more particularly define

that the determination performed by the virtual computer operating system is done autonomously (e.g., without user input). No new matter has been added and the amendments are fully supported by the specification (see, e.g., p. 12, line 9 to p. 16, line 31).

Applicants respectfully submit that Kodosky does not show or suggest "during run-time, using a virtual computer operating system to autonomously determine whether to use a hardware implementation or a software implementation for a given one of the multiple functions of the given application" as recited in applicants' independent claim 28. Instead, Kodosky only describes a computer-implemented system that converts a portion of a graphical program, which is selected by a user prior to execution, into a hardware implementation (Kodosky, see, e.g., col. 4, lines 21-39; col. 11, line 56 to col. 12, line 15; and col. 12, line 63 to col. 13, line 25). Kodosky does not show or suggest that the computer-implemented system autonomously determines, during run-time, whether to use a hardware implementation or a software implementation.

For at least the foregoing reason, claim 28 is allowable. Claims 29-33, which depend from claim 28, are also allowable.

Application No. 10/666,948  
Amendment Dated August 9, 2005  
Reply to Office Action of May 13, 2005

Conclusion

Applicants respectfully submit that this application is in condition for allowance. Accordingly, prompt consideration and allowance of this application are respectfully requested.

Respectfully submitted,

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